



501 P1617 US00

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANTS: Toshiya Nakamura

SERIAL NO.: 10/016,603

GROUP ART UNIT: 2836

FILING DATE: October 30, 2001

EXAMINER: DEBERADINIS, ROBERT L

TITLE: Power supply device and electronic equipment

Hon. Commissioner of Patents and Trademarks,
Washington, D.C. 20231

S I R:

CERTIFIED TRANSLATION

I, Masaaki Iwami of 3-22, Asagaya-minami 1-chome, Suginami-ku, Tokyo, Japan, am an experienced translator of the Japanese language into the English language and I hereby certify that the attached comprises an accurate translation into English of Japanese Patent Application No. 2000-333570 filed October 31, 2000.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

February 24, 2004

Date

Masaaki IWAMI



[Name of Document] Specification

[Title of the Invention] POWER SUPPLY DEVICE AND
ELECTRONIC EQUIPMENT

[What is Claimed is]

[Claim 1] A power supply device, comprising:

a switching power supply section for receiving a DC voltage as an input voltage at a primary side thereof, switching the inputted DC voltage and generating a stabilized output DC voltage at a secondary side thereof isolated from the primary side; and

a current detection section for generating a detection signal in response to supply current to said switching power supply section;

said current detection section generating the detection signal isolated from the primary side and conveying the detection signal to an equipment connected to the secondary side of said switching power supply section.

[Claim 2] The power supply device according to claim 1, wherein said current detection section discriminates a supply state of the DC voltage inputted to the primary side of said switching power supply section based on the supply current to said switching power supply section and notifies, when said current detection section

discriminates that the supply of the DC voltage stops, the equipment connected to the secondary side of said switching power supply section, of the notification of the supply of the DC voltage as a detection signal.

[Claim 3] The power supply device according to claim 1, wherein said current detection section includes a photo-diode for generating light of a light amount corresponding to the supply current to said switching power supply section, and a phototransistor for detecting the light generated from said photo-diode and generating a signal corresponding to the light amount, and generates the detection signal based on the signal outputted from said phototransistor.

[Claim 4] The power supply device according to claim 1, further comprising a rectification section for receiving an AC voltage as an input voltage and rectifying the inputted AC voltage into a DC voltage, wherein the DC voltage outputted from said rectification section is inputted to said switching power supply section.

[Claim 5] An electronic equipment, comprising:

a switching power supply section for receiving a DC voltage as an input voltage at a primary side thereof, switching the inputted DC voltage and generating a stabilized output DC voltage at a secondary side thereof

isolated from the primary side;

a current detection section for generating a detection signal in response to supply current to said switching power supply section;

an operation circuit for operating using the output DC voltage outputted from said switching power supply section as a voltage source; and

a control section for operating using the output DC voltage outputted from said switching power supply section as a voltage source to control said operation circuit;

said current detection section generating the detection signal isolated from the primary side and conveying the detection signal to said control section;

said control section performing an operation ending process of said operation circuit in response to the detection signal.

[Claim 6] The electronic equipment according to claim 5, wherein said current detection section discriminates a supply state of the DC voltage inputted to the primary side of said switching power supply section based on the supply current to said switching power supply section and notifies, when said current detection section discriminates that the supply of the DC voltage stops,